

C-A OPERATIONS PROCEDURES MANUAL

4.120 Access Control Acceptance Tests

1. Purpose

- 1.1 The purpose of these procedure is to define the common requirement which apply to all of the Access Control Acceptance Tests.
- 1.2 The Subsystems to be tested may include some or all of the following: Critical Devices (CDs), Gates, Crash Operators, Radiation Monitors (Chipmunks), Oxygen Deficiency Hazard (ODH), Programmable Logic Computers (PLC), and Flammable Gas Detection in the Experimental Areas. Particular operations tested include: Mode 24 (m24), Sweeps, and Power-Up of PLCs.

2. Responsibilities

- 2.1 Members of the C-A Department Access Control Group (ACG) shall, as designated:
 - 2.1.1 Conduct these test procedures on the Access Control System (ACS);
 - 2.1.2 Complete the verification boxes in the test procedures;
 - 2.1.3 Sign appropriate areas of the Test Procedures on the completion of testing;
 - 2.1.4 Document problems encountered during testing on Attachment 8.1, "ACS Trouble Log Tracking Sheet".
 - 2.1.5 Document repairs to the C-A Access Control System, implemented as a result of testing, in the ACS Maintenance Log Book;
 - 2.1.6 Inform the C-A ACG Leader of any failures found.
- 2.2 The C-A AC Group Leader shall:
 - 2.2.1 Ensure that these procedures are executed annually, or at such times as required by the Radiation Safety Committee (RSC).
 - 2.2.2 Review the test results and sign the completed test procedure.
 - 2.2.3 Report any as-found unsafe failures to the C-A Associate Chair for ESHQ, or designee, and the Chairman of the RSC, or designee.
- 2.3 The RSC Chairman (or designee) shall:
 - 2.3.1 Review the test results and sign the completed test procedures.

- 2.3.2 Determine if and when retesting is required, after changes in hardware or software have been implemented.

3. **Prerequisites**

- 3.1 The ACG Leader, or designee, is responsible for determining and documenting on RS LOTO Log Sheet, [C-A-OPM-ATT 9.1.16.b](#), all RS LOTO's that are needed for the tests being conducted.

- 3.1.1 The Test Team Leader is responsible for verifying all RS LOTO's documented in 3.1 are implemented before the start of the testing process.

- 3.2 The Test Team Leader shall notify the C-A Operations Coordinator of the scope of the tests to be conducted.

- 3.3 The Test Team Leader shall notify the C-A Operations Coordinator of the start time of the tests to be conducted.

- 3.4 Before proceeding with these tests, the following conditions must exist:

- 3.4.1 The development systems for both Division A & Division B must be disconnected and be under RS LOTO.

- 3.4.2 The key switches on both Division A & Division B PLC computers must be in the "RUN" position, the keys removed and secured.

- 3.4.3 The PLC enclosures must be closed and locked with an ACG padlock.

3.5 **Minimum Personnel**

- 3.5.1 A minimum of two members of the C-A ACG, who will work in the field are required. These members shall be designated "Testers", and their qualifications and training requirements are:

- RWT-002, "RAD Worker 1"
- C-A Access Training
- Training in the use of a Personnel Oxygen Monitor (POM), as necessary.

- 3.5.2 One member of the C-A ACG is required to man the ACS Operator Interface in the MCR. This member shall be designated "Test Team Leader (TTL)" and shall be qualified to:

- Direct the test effort.
- Maneuver the ACS Operator Interface in the MCR.
- Document test results in the test procedure during the conduction of the test.

- Document problems encountered during testing on Attachment 8.1, “ACS Trouble Log Tracking Sheet”.
- Document repairs to the C-A ACS, implemented as a result of testing, in the ACS Maintenance Log Book.
- Apply/remove RS LOTO as necessary.
- Coordinate assistance of System Specialists from other C-A Sections when necessary.

3.6 Equipment required for the Testers:

- TLD badges
- C-A ACS access keys as required for testing
- C-A ACS entry cards as required for testing
- C-A Safety System padlock keys
- Technicians Tool Kit, including: large screwdriver, flashlight, and stopwatch
- Personal Oxygen Monitor (POM), as required

3.7 Posting:

- 3.7.1 Prior to performing tests, where necessary, post entrance gates with signs that the area is under test.

3.8 Software Running:

- 3.8.1 At the beginning of each test, record the version of software running in A and B Divisions of the PLC.

4. Precautions

- 4.1 When in Mode 24, all non-ACG test personnel must be swept from the area under test.
- 4.2 ACG test personnel in the tunnel, during Mode 24 testing, must wear a POM.
- 4.2.1 In the event of a POM alarm, or upon hearing a noise that may be due to escaping cryogen, occupants should immediately trip a crash operator to cancel Mode 24 and enable fan protection.

5. Procedure

5.1 Conduct Acceptance Tests

- 5.1.1 Acceptance Tests are defined in the Attachments.
- 5.1.2 Use only a pen with permanent, non-erasable ink to fill in the test procedure responses.

- 5.1.3 Each verification check-off box in the test procedure must be checked “√” if the test is passed, and “X” if the test has failed.
- 5.1.4 The TTL shall sign off on the lines in the procedures marked “completion of initial testing...” at the initial completion of the test procedure, regardless of anomalies encountered during testing.
- 5.1.5 Compile all failed test results on an ACS Trouble Log Tracking Sheet.
- 5.1.6 Document all repairs in the ACS Maintenance Log Book.
- 5.1.7 The TTL shall sign off on the lines in the procedures marked “final acceptance...” subsequent to correction of anomalies and successful retest.
- 5.1.8 Following successful completion of testing, the C-A ACG Leader and the RSC Chair, and/or their designees, shall review the test results.
- 5.1.9. The C-A ACG Leader, and the RSC Chair, and/or their designees, shall sign the Test Procedure Cover Sheet on their acceptance of the Test Procedure results.

6. Documentation

- 6.1 Completed test procedures to be filed with the C-A ACG Leader following completion of testing.
- 6.2 ACS Trouble Log Tracking Sheet (as required), to be filed with the C-A ACG Leader following completion of testing.
- 6.3 ACS Maintenance Log Book.
- 6.4 RS LOTO Log Sheet (as required) to be filed with Main Control Room (MCR) RS LOTO records. Copy to be filed with C-A ACG Leader before the start of testing.

7. References

None

8. Attachments

- 8.1 ACS Trouble Log Tracking Sheet.
- 8.2 ACS Subsystem Tests Numbering Tree.

Access Control System Trouble Log Tracking Sheet

Attachment 8.1

TEST PROCEDURE			DESCRIPTION OF PROBLEM	REPAIR		
Section Name	Page No.	Parag. No.		Log Bk ref Vol/Pg	Date Compl.	Verif. By Initial

**Access Controls Group
Subsystem Acceptance Test Numbering Assignment**

Attachment 8.2

RHIC	4.120.1 through 4.120.19
AGS	4.120.20 through 4.120.39
Beam Line	4.120.40 through 4.120.59
Booster	4.120.60 through 4.120.69
Linac	4.120.70 through 4.120.79
Tandem	4.120.80 through 4.120.99
Booster Application Facility	4.120.100 through 4.120.109